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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/733,788	12/07/2000	Joshua I. Pine	00CXT0433I	2571

7590 06/17/2005

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EXAMINER

HENN, TIMOTHY J

ART UNIT PAPER NUMBER

2612

DATE MAILED: 06/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/733,788

Applicant(s)

PINE, JOSHUA I.

Examiner

Timothy J. Henn

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 03 February 2005 with respect to the 35 USC §103 rejections have been fully considered but they are not persuasive.

In arguing against the combination of Kingetsu in view of Matsui Applicant argues that has relied on impermissible hindsight (p. 7). In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Applicant further argues that the combination of Kingetsu in view of Matsui because the combination would render the prior art unsatisfactory for its intended purpose (p. 8) and refers to MPEP page 2100-131. Specifically Applicant argues that the addition of white balancing means of Matsui would render Kingetsu unsatisfactory for an intended purpose of saving space in image memory by storing only achromatic luminance data for black and white images. However, Kingetsu discloses both photography of color and black and white documents (c. 11, ll. 44-61; Figure 14). Matsui discloses white balancing for color photography to ensure that white objects are reproduced as white (c. 1, ll. 29-37) through the use of applying gains individually to the

Art Unit: 2612

color channels. Since Kingetsu is also concerned with color photography the addition of white balance as taught by Matsui would be beneficial. Furthermore, it is unclear how the presence of a white balance system would render the Kingetsu incapable of saving space in image memory by storing only achromatic luminance data as argued by Applicant.

Applicant further argues that no motivation to combine the references exists, however Matsui clearly discloses that white balance control can be used to “reproduce a white object as a white colored material” in column 1, lines 31-37). Therefore it is submitted that motivation to include white balancing in a digital camera is contained within the Matsui reference.

Applicant further argues that since Matsui discloses photography using indoor and outdoor modes while Kingetsu discloses the use of document and non-document modes the references are incompatible. However, it is noted that both references disclose cameras for use in photography in scenes, and as such the “basic principle under which the [primary reference] construction was designed to operate” would not change with the addition of a white balancing system as taught by Matsui. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant argues against the combination of Kingetsu and Nakayama using the same arguments used against the combination of Kingetsu and Matsui and the

Art Unit: 2612

combination of Kingetsu and Lu. Therefore, the examiner refers Applicant to the above response for the arguments against the combination of Kingetsu and Nakayama and the combination of Kingetsu and Lu.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims ¹~~1~~ 8, 16-21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kingetsu et al. (US 6,181,379) in view of Matsui et al. (US 5,448,292).

[claim 1]

In regard to claim 1, note that Kingetsu discloses a color imaging system comprising (Figure 1): a color imager having a plurality of photocells producing electrical responses that correspond to chromatic intensity values (Figure 1, Item 11), and the electrical responses from the plurality of photocells together comprising a captured color image (c. 2, ll. 39-60); and an image processor that determines whether the captured image is substantially achromatic (c. 11, 44-61), and if so, renders each of the electrical responses as an achromatic luminance value (c. 12, ll. 1-17). However, Kingetsu does not disclose a white balance function.

White balance is well known in the digital camera art to improve the quality of pictures by making sure that real life white objects appear white when photographed, for example see Matsui (c. 1, ll. 37-45). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a white balance function in the camera of Kingetsu to ensure that real life white objects appear white when photographed.

[claim 3]

In regard to claim 3, see claim 1.

[claim 4]

In regard to claim 4, note that Kingetsu discloses a color imaging system wherein the substantially achromatic image is a gray-scale image, and the achromatic format is a gray-scale format (c. 12, ll. 11-17).

[claim 5]

In regard to claim 5, note that Kingetsu discloses a color imaging system wherein the substantially achromatic image is a black-and-white image, and the achromatic format is a black-and-white format (c. 12, ll. 1-10).

[claim 6]

In regard to claim 6, note that Kingetsu discloses a color imager which is a scanner (i.e. scanning type imager; c. 2, ll. 49-60). Therefore, it can be seen that Kingetsu lacks a constant, known light source. However, it is notoriously well known in the art to include constant, known light sources on cameras in the form of flashes in order to illuminate weakly lit scenes (Official Notice). Therefore, it would have been

Art Unit: 2612

obvious to one of ordinary skill in the art at the time the invention was made to include a flash in the camera of Kingetsu to be able to illuminate weakly lit scenes.

[claim 7]

In regard to claim 7, note that Kingetsu discloses a color imaging system wherein the color image capture device and image processing circuitry are disposed within a single device (Figures 1 and 2).

[claim 8]

In regard to claim 8, note that Kingetsu discloses all limitations except for a white balance function white allows the user to select from among a plurality of white-balance settings. However, white balance is well known in the digital camera art to improve the quality of pictures by making sure that real life white objects appear white when photographed, for example see Matsui (c. 1, ll. 37-45). In particular, Matsui discloses a white balance function white allows the user to specify a kind of light source by manually operating a device or "switch" (c. 2, ll. 12-21). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a white balance function as taught by Matsui in the camera of Kingetsu to ensure that real life white objects appear white when photographed.

[claim 16]

In regard to claim 16, see claim 1.

[claim 17]

In regard to claim 17, note that Kingetsu discloses capturing the image with a color imager having a plurality of photocells producing electrical responses

corresponding to the plurality of chromatic intensity values (c. 2, ll. 39-60).

[claim 18]

In regard to claim 18, note that Kingetsu discloses detecting whether the image is a substantially black-and-white image, and if the image is detected to be a substantially black-and-white image, converting the plurality of chromatic luminance values to a plurality of black and white values (c. 12, ll. 1-10).

[claim 19]

In regard to claim 19, note that Kingetsu discloses all limitations except for steps of computing mean and standard deviation values of a color saturation distribution of the image, and comparing the mean and standard deviation values to a plurality of threshold values to detect whether the image is substantially achromatic. However, it is well known in the art to determine whether an image is substantially achromatic to comparing statistical values such as the mean and standard deviation with threshold values to quickly and easily determine if an image is color or achromatic (Official Notice). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to compare statistical values of the image data to determine if the image is achromatic in the achromatic image determination step of Kingetsu.

[claim 20]

In regard to claim 20, note that Kingetsu discloses all limitations except for steps of computing mean and standard deviation values of a luminance distribution of the image, and comparing the mean and standard deviation values to a plurality of

Art Unit: 2612

threshold values to detect whether the image is a substantially black and white image.

However, it is well known in the art to determine whether an image is substantially black and white to comparing statistical values such as the mean and standard deviation with threshold values to quickly and easily determine if an image is color or black and white (Official Notice). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to compare statistical values of the image data to determine if the image is achromatic in the black and white image determination step of Kingetsu.

[claim 21]

In regard to claim 21, see claim 1.

[claim 23]

In regard to claim 23, see claim 1.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kingetsu et al. (US 6,181,379) in view of Matsui et al. (US 5,448,292) as applied to claim 1 above, and further in view of Roberts (US 5,541,654).

[claim 9]

In regard to claim 9, note that Kingetsu in view of Matsui discloses all limitations except for an image-type specification control that allows a user to select from among a plurality of image formats. Roberts teaches a windowing system for an imaging array that allows a user to readout only a selected subset of the array or an "image format" and to be able to increase the frame rate of the data readout (c. 7, ll. 33-45). Therefore,

Art Unit: 2612

it would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the user to select different sections or “formats” of the array to be readout in order to increase the frame rate of the imager.

5. Claims 10, 11, 13-15 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kingetsu et al. (US 6,181,379) in view of Nakayama et al. (US 2002/0027601 A1).

[claim 10]

In regard to claim 10, Kingetsu discloses an image processor (Figure 2, CPU 101) that processes an image comprising a plurality of chromatic intensity values (c. 2, ll. 39-60), comprising: an achromatic image-detection circuit that detects whether the image is substantially achromatic (c. 11, ll. 46-61); and an image conversion circuit that renders each chromatic intensity value as an achromatic luminance value if the achromatic image detection circuit detects that the image is substantially achromatic (c. 12, ll. 1-17). Therefore it can be seen that Kingetsu lacks a white balance circuit. However, white balance is well known in the digital camera art to improve the quality of pictures by making sure that real life white objects appear white when photographed, for example see Nakayama (Paragraph 0027). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a white balance circuit in the camera of Kingetsu to ensure that real life white objects appear white when photographed.

[claim 11]

In regard to claim 11, note that Nakayama discloses a white balance circuit which uses data stored of a prior image to adjust white balance in order to quickly and correctly adjust white balance for an arbitrary object even just after the power supply has been turned on (Paragraph 0006).

[claim 13]

In regard to claim 13, note that Kingetsu discloses a color imager to capture the image (c. 2, ll. 39-60).

[claim 14]

In regard to claim 14, note that Kingetsu discloses an image processor wherein the achromatic image-detection circuit detects whether the image is a substantially black-and-white image, and the image conversion circuit renders the plurality of chromatic intensity values as black and white values if the achromatic image detection circuit detects that the image is a substantially black-and-white image (c. 12, ll. 1-9).

[claim 15]

In regard to claim 15, note that Kingetsu discloses an image processor wherein the image conversion circuit converts each achromatic luminance value that is less than a threshold value to black and converts each achromatic luminance value that is more than the threshold value to white (c. 12, ll. 1-9).

[claim 22]

In regard to claim 22, see claim 10.

Art Unit: 2612

6. Claims 10, 12-15 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kingetsu et al. (US 6,181,379) in view of Lu et al. (US 5,504,524).

[claim 10]

In regard to claim 10, Kingetsu discloses an image processor (Figure 2, CPU 101) that processes an image comprising a plurality of chromatic intensity values (c. 2, ll. 39-60), comprising: an achromatic image-detection circuit that detects whether the image is substantially achromatic (c. 11, ll. 46-61); and an image conversion circuit that renders each chromatic intensity value as an achromatic luminance value if the achromatic image detection circuit detects that the image is substantially achromatic (c. 12, ll. 1-17). Therefore it can be seen that Kingetsu lacks a white balance circuit. However, white balance is well known in the digital camera art to improve the quality of pictures by making sure that real life white objects appear white when photographed, for example see Lu (c. 1, ll. 11-29). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a white balance circuit in the camera of Kingetsu to ensure that real life white objects appear white when photographed.

[claim 12]

In regard to claim 12, note that Lu discloses a white balance circuit which analyzes a current image to computer a set of values (i.e. gains) with which to modify the chromatic intensity values of the image (Figure 2).

[claim 13]

In regard to claim 13, note that Kingetsu discloses a color imager to capture the image (c. 2, ll. 39-60).

[claim 14]

In regard to claim 14, note that Kingetsu discloses an image processor wherein the achromatic image-detection circuit detects whether the image is a substantially black-and-white image, and the image conversion circuit renders the plurality of chromatic intensity values as black and white values if the achromatic image detection circuit detects that the image is a substantially black-and-white image (c. 12, ll. 1-9).

[claim 15]

In regard to claim 15, note that Kingetsu discloses an image processor wherein the image conversion circuit converts each achromatic luminance value that is less than a threshold value to black and converts each achromatic luminance value that is more than the threshold value to white (c. 12, ll. 1-9).

[claim 22]

In regard to claim 22, see claim 10.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Henn whose telephone number is (571) 272-7310. The examiner can normally be reached on M-F 9:00 AM - 6:00 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy R. Garber can be reached on (571) 272-7308. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 09/733,788
Art Unit: 2612

Page 14

TJH
5/31/2005



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